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RESEARCH ARTICLE

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# Does being a leader make them stay? Short- and long-term effects of supervisory responsibility on turnover intentions

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## Abstract

Employers want to avoid fluctuation, especially when qualified personnel is involved. This raises the question of whether promoting employees into leadership positions with supervisory responsibility helps to retain them. Based on social exchange theory, this article predicts that in the short run, employees have lower turnover intentions due to reciprocal feelings. In the long run, following human capital theory, supervisory responsibility increases an employee's turnover intentions due to the general skills acquired in the leadership position. This article argues that human resource management (HRM) practices that enhance an individual's internal career development counteract this long-term turnover-increasing effect by offering employees internal advancement opportunities. This study empirically tests these predictions using German linked employer-employee data. The results support the predicted short-term turnover-reducing and the long-term turnover-increasing effect of supervisory responsibility. The results also reveal that for long-term supervisors appraisal interviews and development plans, two examples of HRM

**Abbreviations:** HRM, human resource management; IAB, Institute for Employment Research; IEB, Integrated Employment Biographies; LPP, Linked Personnel Panel; LPP-ADIAB, Linked Personnel Panel linked to the administrative individual-level data from the Integrated Employment Biographies; Max, Maximum; Min, Minimum; SD, standard deviation.

practices, counteract the effect by reducing an employee's intention to quit.

**KEYWORDS**
human resource management practices, leadership, retention, supervisory responsibility, turnover intentions

**Practitioner notes**

**What is currently known?**

- Employee development activities entailing general skills increase employees' turnover intentions (human capital theory).
- An employee's perception of development opportunities reduces turnover intentions (social exchange theory).
- There is no agreement in the literature on which of the two theories prevails in explaining the relationship between development activities and turnover intentions.

**What this paper adds?**

- This research includes the time-related perspective combining the argumentation of social exchange and human capital theory when investigating the relationship between supervisory responsibility and turnover intentions.
- This study finds a short-term turnover-reducing and a long-term turnover-increasing effect of leadership positions with supervisory responsibility.
- Appraisal interviews and development plans counteract the increased turnover intentions of long-term supervisors.

**The implications for practitioners**

- Leadership positions with supervisory responsibility act as a short-term retention device.
- Since in the long run, supervisory responsibility increases an employee's turnover intentions, employers should counteract this by providing internal career development opportunities to retain long-term leaders.

## 1 | INTRODUCTION

Fluctuation is costly and employers, therefore, strive to avoid it. Productivity losses, an increased administrative burden, a loss of social capital and tacit knowledge as well as turnover being contagious all cause the price of fluctuation to be high (Chung et al., 2022; Mohr et al., 2012; Rubenstein et al., 2018). In an economic sense, the financial burden of turnover is staggering, often ranging from 90% to 200% of an employee's annual salary (Allen et al., 2010). Consequently, employers have an incentive to minimize employee turnover, particularly when it concerns highly skilled and qualified personnel. Especially in times of skills and managerial shortage, it is indispensable to retain highly talented employees.

One possibility to retain qualified employees is to promote them, for example, into a leadership position with supervisory responsibility. This promotion closely relates to the phenomenon of the employability paradox which has been widely discussed in the literature and revolves around the question of whether development activities that enhance employees' ability also increase the risk of employee turnover (Nelissen et al., 2017). In line with this, this study seeks to address whether promoting employees into a leadership position with supervisory responsibility helps to retain them or whether this promotion increases the risk of turnover because of increased marketable skills. Since turnover intentions are verified to be a direct antecedent of actual turnover and, therefore, represent one of its best predictors (Steel & Ovalle, 1984), this study will, in the following, rely on turnover intentions as the central phenomenon.

For the theoretical framework, this article integrates perspectives from social exchange and human capital theory by explicitly acknowledging that the underlying theoretical mechanism of the relationship between supervisory responsibility and turnover intentions differs in the short and the long run. This advances the literature on social exchange and human capital theory by differentiating the short- and long-term aspects of the relationship between supervisory responsibility and turnover intentions. When considering the short-term effect of supervisory responsibility on turnover intentions, this study draws upon social exchange theory. This perspective posits that obtaining supervisory responsibility evokes reciprocal feelings in employees, thereby reducing intentions to leave the current employer. In contrast, the exploration of the long-term effect of supervisory responsibility aligns with human capital theory. In line with this theory, individuals occupying leadership positions with supervisory responsibility over an extended period tend to accumulate general skills. This heightened general human capital, in turn, enhances their attractiveness to external career prospects, increasing their long-term turnover intentions. For an employer, this imposes the question of how to address this long-term turnover-increasing effect. This article argues that human resource management (HRM) practices that enhance an employee's internal career development counteract this long-term turnover-increasing effect by offering employees more internal options for advancement. These advancement opportunities, provided by appraisal interviews and development plans, make the internal labor market more attractive to the employee in comparison to the outside one which leads to lower intentions to leave the employer.

This article offers contributions to the existing literature in two key areas. First, it addresses the ongoing debate concerning the explanation of turnover intentions by social exchange versus human capital theory. While a large strand of literature stresses that human capital theory explains the relationship between employee development activities and turnover intentions (Benson, 2006; Benson et al., 2004; Dietz & Zwick, 2021; Green et al., 2000; Manchester, 2012; Pattie et al., 2006; Sieben, 2007; Trevor, 2001), another strand of literature has investigated this relation from a social exchange perspective (Dysvik & Kuvaas, 2008; Ertas, 2019; C. H. Lee & Bruvold, 2003). Although some papers use both theoretical concepts when investigating training (Kampkötter & Marggraf, 2015; Koster, Grip, & Fouarge, 2011) or employee development (Martini et al., 2022; Rahman & Nas, 2013), none of these scholars has systematically differentiated the relationship with turnover intentions from a short- and long-term perspective. When considering a leadership position, previous research has yielded mixed results when empirically controlling for supervisory responsibility (Elvira & Cohen, 2001; Manchester, 2012), the employment position level (Baranchenko et al., 2020), or satisfaction with the level of responsibility (Ertas, 2019) in the context of turnover intentions. This variability in findings implies that the effect might not be constant over time and underscores the importance of considering short- and long-term effects separately. This article extends the existing research by placing a specific focus on the influence of supervisory responsibility, explicitly differentiating between its short- and long-term effects on turnover intentions. Given the practical significance of understanding both short- and long-term turnover effects for organizations, this study provides valuable insights into this nuanced issue.

Second, although existing literature has underscored the importance of career-supporting HRM practices to lower turnover intentions (Ertas, 2019; Kraimer et al., 2011; Shuck et al., 2014), especially among employees with career aspirations, it has not been investigated if internal career development practices can act as a retention device for supervisors. Consequently, I address this void by identifying two HRM practices that enhance internal career development, namely appraisal interviews and development plans, as potential instruments for employers to mitigate the turnover intentions of long-term supervisors.

## 2 | LITERATURE AND THEORETICAL BACKGROUND

In the literature, the two most prominent theories to explain the relationship between training or development opportunities and turnover (intentions) are the social exchange and the human capital theory. On the one side, there is a vast amount of research that asserts the effect of actual training, employee development practices, and skills acquisition on turnover intentions from a human capital perspective (Benson, 2006; Benson et al., 2004; Dietz & Zwick, 2021; Green et al., 2000; Manchester, 2012; Pattie et al., 2006; Sieben, 2007; Trevor, 2001). This literature claims that, in the light of human capital theory, individuals' acquiring skills and knowledge through training increases their marketable skills and external job opportunities. The transferability of these general skills will enhance employability and the likelihood that employees will market their skills elsewhere. On the other side, there is a large strand of literature following social exchange theory that rather focuses on the employee's perception of training and development opportunities instead of the actual skills acquisition itself (Dysvik & Kuvaas, 2008; Ertas, 2019; C. H. Lee & Bruvold, 2003). Social exchange theory emphasizes the notion that relationships between individuals and organizations are based on reciprocity and mutual benefits. Thus, the perception of training or development opportunities induces feelings of reciprocity which reduces employees' turnover intentions. Even though a couple of scholars base their argumentation on both central theories (Kampkötter & Marggraf, 2015; Koster et al., 2011; Martini et al., 2022; Rahman & Nas, 2013), they do not consider differences between the short- and long-term effect of supervisory responsibility and turnover intentions. By specifically distinguishing between short- and long-term supervisory responsibility and turnover intentions, I shed more light on the application of social exchange and human capital theory.

### 2.1 | The short-term effect of supervisory responsibility

The argumentation for the short-term negative effect of obtaining supervisory responsibility on an employee's intention to leave the current employer is based on social exchange theory. Following Homans (1958, 1961), any kind of human behavior is based on social exchange. The concept of social exchange, which is defined as the "exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two persons" (Homans, 1961, p. 13), incorporates that exchange relations are based on trust and reciprocity. Thus, it induces feelings of personal obligation, trust, and gratitude (Blau, 1964, p. 94). Generally, the higher the value of the activity a member of the exchange relationship receives, the more value they must give back to restore the social equilibrium (Homans, 1958). Following Maurer et al. (2002, p. 438), development opportunities, especially those transferring general skills (Kampkötter & Marggraf, 2015, p. 2891), oblige to reciprocal behavior. Therefore, I argue that if an employer transfers supervisory responsibility to an employee this can be seen as a development opportunity entailing general skills causing the individual to feel valued and important to their employer (Kampkötter & Marggraf, 2015, pp. 2891, 2900). As a consequence, the respective employee intends to restore the social equilibrium through higher efforts and greater affective commitment (Eisenberger et al., 2001, p. 42). Since the reciprocal reaction only occurs immediately after the advantageous treatment by the employer (Kampkötter & Marggraf, 2015, p. 2891), this results in temporarily lowered turnover intentions. Basing my argumentation on the social exchange mechanism, I put forward the following hypothesis.

**Hypothesis 1** If an individual obtains supervisory responsibility, it temporarily lowers their turnover intentions compared to an individual without supervisory responsibility.

## 2.2 | The long-term effect of supervisory responsibility

As argued above, the employee behaves reciprocally only immediately after obtaining supervisory responsibility until the social equilibrium is restored. Thus, the long-term effect of supervisory responsibility on turnover intentions can be argued from a human capital perspective. Standard human capital theory (Becker, 1962) posits that general human capital increases an individual's productivity in multiple firms in addition to the one providing it leading to a higher labor market value of the employee. In consequence, the transferability of general skills increases an employee's outside options and makes them more attractive to other firms (Benson et al., 2004; Manchester, 2012). These outside options can outbid the employer that provided the general skills due to not having to compensate for these human capital investments (Dietz & Zwick, 2021, p. 711), which leads to higher turnover intentions. Additionally, Schneider and Flore (2019) show that when individuals are employed over a longer period, general skills negatively affect an employee's calculative and normative commitment because the employee might interpret the general skills as a signal of job insecurity.

Given that the skills obtained from having supervisory responsibility are of general nature (Kampkötter & Marggraf, 2015, p. 2900), holding a leadership position with supervisory responsibility can be seen as an investment in general human capital. Although it takes some time for an individual in a leadership position with supervisory responsibility to acquire these general skills, they are eventually acquired. Consequently, in the long run, an individual who holds such a position acquires more general human capital than one who does not hold such a position. While the acquisition of these skills occurs in the early stages of being a leader, the application, utilization, and development of these skills are related to stages later on in the trajectory of being in a leadership position (Mumford et al., 2000, pp. 88–90). While previous research does not ensure an exact timeframe of when these skills are acquired, I base my arguments on the notion that leadership development programs show effects of supervisors acquiring leadership skills within the first year after the leadership training (Abrell et al., 2011) and the fact that leadership development programs tend to last around 1 year (Hirst et al., 2004; Karagianni & Jude Montgomery, 2018). Nevertheless, and irrespective of the quality or the utilization of these skills, the mere possession of these general skills enhances an individual's employability in the labor market, as argued above. To conclude, the higher employability and the greater outside options of those with supervisory responsibility, that is, more general human capital increase an employee's intentions to leave their current employer. This leads to the following hypothesis.

**Hypothesis 2** If an individual obtains supervisory responsibility, it increases their turnover intentions in the long run compared to an individual without supervisory responsibility.

## 2.3 | Human resource management practices that enhance internal career development

In the long run, as argued above, supervisory responsibility positively impacts an employee's turnover intentions. Generally, the employer wants to counteract sentiments that increase the intent to leave the current employer (Firth et al., 2004). In the next step, I, therefore, scrutinize factors that reduce the turnover intentions of long-term supervisors. I assert that, for long-term supervisors, HRM practices that foster their internal career development reduce their turnover intentions. Following the literature that states that an employee's turnover intentions can be reduced by illustrating internal career advancement opportunities (Ertas, 2019; Kraimer et al., 2011; Shuck et al., 2014) and in line with the above arguments on human capital theory, the employer could counteract the

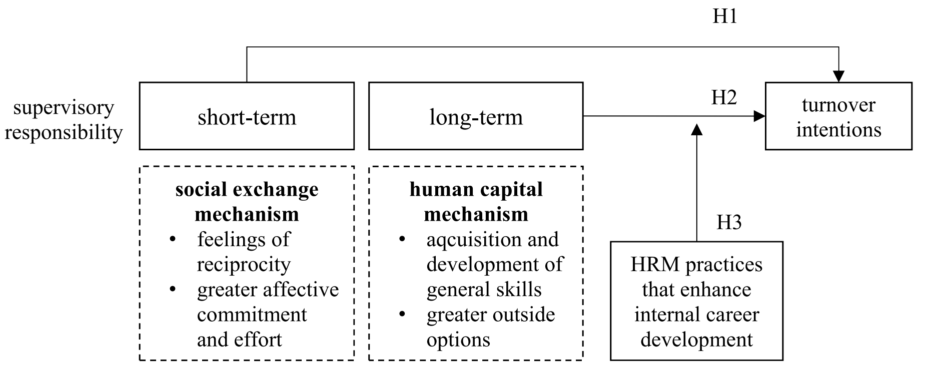


**FIGURE 1** Conceptual model of the relationship between supervisory responsibility and turnover intentions.

effect of supervisory responsibility as a form of general human capital leading to better outside options by offering the employee better internal options. I argue this being especially relevant for qualified personnel, for example, employees with long-term supervisory responsibility because they have a special interest in career advancement. The better internal options due to HRM practices would, in consequence, lower the intent of an employee with long-term supervisory responsibility to leave their current employer. Consequently, I hypothesize the following.

**Hypothesis 3** If an individual with long-term supervisory responsibility is offered HRM practices that enhance their internal career development, their turnover intentions decrease compared to an individual without such practices.

As shown in Figure 1, the theorizing of this article links the short- and long-term perspective of supervisory responsibility and turnover intentions. In the conceptual model, I argue that it is through the social exchange mechanism that short-term supervisors have lowered turnover intentions and through the human capital mechanism that long-term supervisors have increased turnover intentions.

## 3 | DATA AND METHODOLOGY

### 3.1 | Sample

To test the hypotheses, this study uses data from the Linked Personnel Panel (LPP) which is a German linked employer-employee panel data set provided by the Research Data Center of the German Federal Employment Agency at the Institute for Employment Research (IAB) (Mackeben et al., 2021). I combine the data of the LPP with the administrative data from the Integrated Employment Biographies (IEB) to obtain highly reliable information on an individual's employment history, more precisely information on an individual's tenure with their current employer. The IEB are sourced by the German Employment Agency and comprise individual-level administrative data from, among other sources, annual reports of employers to social security authorities. Since the LPP employer survey is a follow-up questionnaire of the IAB Establishment Panel, I can additionally link the data to the IAB Establishment Panel to acquire more information on the establishment level (e.g. industry indicators). The LPP consists of 4 waves that were conducted in the years 2012/2013, 2014/2015, 2016/2017, 2018/2019. The dataset is representative of German private sector establishments with 50 or more employees liable to social security and entails information on employees' personal attitudes, socio-demographics, and working conditions at the employee level and information on HRM instruments, corporate culture, and structural features at the establishment level (Ruf et al., 2020, pp. 133–134). The major benefits of the dataset are that it contains detailed information on the employees' attitudes toward work (e.g. job satisfaction), which are highly relevant to explain turnover intentions (Trevor, 2001), and that the information on employees and their employers can be linked. This is necessary for making statements about the effects of HRM practices on the turnover intentions of long-term supervisors.

Since information on the main variables was not observed in the first wave, I only use waves 2–4 for the empirical analyses. Moreover, for the empirical analyses, I also exclude individuals that are older than 67 due to the statutory retirement age in Germany and I restrict the sample to individuals working for the same employer in at least two waves because it is only plausible to analyze turnover intentions for individuals that are still working for the same employer. To address the research question of this study correctly, it is crucial to ensure that individuals are still with the employer from whom they obtained supervisory responsibility. This does not mean excluding individuals with previous supervisory responsibility experience per se but instead, ensuring that individuals being considered are still employed by the same employer that granted them supervisory responsibility. This assures that the results are not confounded by the long-term effects of supervisory responsibility from previous workplaces because it becomes challenging to isolate the mechanism, as there could be additional unobservable influences from the possibility of changing employers or unknown reasons for the employment transitions which can impact turnover intentions. As a result, I eliminate all individuals who obtained supervisory responsibility with a different employer than the one where they are working when observed within this study. Thus, the final sample consists of 4351 observations from 1924 individuals working for 458 employers. Within this final sample, each individual included is observed for a minimum of two and a maximum of three observation points.

## 3.2 | Variables

### 3.2.1 | Main variables

In the analyses, *turnover intention* is the dependent variable and is captured by the question "How many times in the past 12 months have you thought about changing your job?". The answers ranged from "daily" to "never" on a five-point Likert scale. Since the distribution of this variable is strongly-right-skewed,[1] I recoded the dependent variable *turnover intentions* into three categories low, moderate, and high turnover intentions (low = "never", moderate = "a few times a year", high = "a few times a month", "a few times a week", "daily").[2] Additionally, I claim that the difference between thinking about leaving your current employer "a few times a year" and "a few times a month" is notably bigger than the difference between "a few times a month" and "a few times a week". Furthermore, I only consider the question regarding professional (and not private) reasons for turnover intention in the analyses. This is done to ensure that the dependent variable captures only the work-related turnover effect because personal turnover intentions might be correlated to multiple other individual factors that cannot be observed in the data.

The short-term and long-term effects of supervisory responsibility were measured by using the question "For how many years have you been in charge of other persons regardless of your current position?" which is a follow-up question for individuals who claimed to supervise others. I operationalize the main independent variable *supervisory responsibility* into three categories following the operationalization of the training variable from Kampkötter and Marggraf (2015, p. 2895). The variable takes the value 1 if the individual does not have supervisory responsibility, 2 if the individual has obtained supervisory responsibility within the last year (short-term), and 3 if the individual has had supervisory responsibility for a year or longer (long-term). I group individuals with at least 1 year of experience in a leadership position with supervisory responsibility into one category, since I rely on the theoretical notion that after 1 year of occupying a leadership position with supervisory responsibility, an individual has acquired the skills associated with this position and, thus, to ensure that I am measuring the acquisition of general leadership skills and not the application and utilization of these skills.[3]

For the second step of the empirical analysis, HRM practices that enhance an individual's career development are of interest. I quantify these by the two dummy variables *appraisal interview*, which takes the value 1 the individual has had a structural appraisal interview during the last year and 0 otherwise (employee level), and *development plans*, which takes the value 1 if development plans for supervisors exist and are systematically reviewed at the respective establishment (establishment level).

#### 3.2.2 | Control variables

In addition to supervisory responsibility, a variety of other factors can influence an employee's likelihood of intending to leave their current employer. To account for these factors, this study draws on previous research on turnover and turnover intentions and includes a range of employee-level and establishment-level characteristics as control variables. On the employee level, these include whether an individual is *female* (Blomme et al., 2010) due to the differences between men and women in terms of career expectations. Specifically, women may face difficulties in obtaining leadership positions and may also have restricted opportunities to change employers due to family responsibilities, which are traditionally associated with women. In line with the aspect of family responsibilities and career advancement, I also control for the *number of children* under the age of 14 that live within the same household (T. W. Lee & Maurer, 1999). I further include an employee's *age* (Yuan et al., 2024) since employees from different age groups may have varying employment preferences. Additionally, I include five dummy variables indicating an individual's *education level* (Chowdhury, 2015), since education is indicative of an individual's employability in the labor market. Finally, I consider the *Big Five personality characteristics* (Albrecht & Marty, 2017; Barrick & Zimmerman, 2009; Jeswani & Dave, 2012) as control variables, given their potential impact on both, the occupancy of leadership positions and turnover intentions.

Job-related factors on the employee level include an individual's level of *commitment* (Armstrong-Stassen & Schlosser, 2010; Brunetto et al., 2012) since committed employees are more attached and loyal to their organization, which makes them less likely to leave. As supervisors may receive more training in the workplace than non-supervisors, the study also controls whether an individual has participated in *training at the workplace* in the last 12 months (Kampkötter & Marggraf, 2015). Together with training, *tenure* with the current employer (I. W. Lee & Lee, 2021) captures an individual's skills which impact employability. Furthermore, I include an individual's overall *job satisfaction* (Flickinger et al., 2016). Since a leadership position with supervisory responsibility can be seen as a development opportunity that is typically granted or influenced by an employee's supervisor, the study also controls for an individual's perception of *fair treatment by the supervisor* (Zhang et al., 2019), as well as for their *perceived support* (Koster et al., 2011). This is because the perception of fair treatment and organizational support can reinforce an employee's reciprocal behavior within the exchange relationship, resulting in reduced turnover intentions.

The control variables on the establishment level are the *establishment size* and 15 *industry* dummy variables to control for labor market differences within an establishment or an industry (Haines III, Jalette, & Larose, 2010), as well as the *state* in which the corporation is based to control for regional labor market disparities since individuals in a leadership position with supervisory responsibility may base their decisions on when to leave their current employer on the available job market opportunities within their firm, industry or region. Finally, I add a dummy variable for each survey wave to correct for time effects. Table 1 provides a summary of descriptive statistics for all variables included in the analyses. Table 2 displays correlations of the main variables.

### 3.3 | Estimation strategy

To take into account the ordinal scaling of the dependent variable *turnover intentions* (low, moderate, high) and the panel structure of the data, I apply a random-effects ordered probit model. The ordered probit model jointly estimates the probability that an employee falls into each of the three categories of turnover intentions given the

TABLE 1 Descriptive statistics.

| | Mean | SD | Min | Max |
|---|---|---|---|---|
| Main variables | | | | |
| Turnover intention | | | | |
| Low turnover intentions | 0.676 | – | 0 | 1 |
| Moderate turnover intentions | 0.218 | – | 0 | 1 |
| High turnover intentions | 0.105 | – | 0 | 1 |
| Supervisory responsibility[a] | | | | |
| No supervisory responsibility | 0.737 | – | 0 | 1 |
| Supervisory responsibility <1 year | 0.004 | – | 0 | 1 |
| Supervisory responsibility ≥1 year | 0.259 | – | 0 | 1 |
| Appraisal interviews | 0.548 | – | 0 | 1 |
| Development plans | 0.341 | – | 0 | 1 |
| Employee characteristics | | | | |
| Female | 0.276 | – | 0 | 1 |
| Age | 50.15 | 9.277 | 20 | 67 |
| Number of children | 0.338 | 0.705 | 0 | 4 |
| Education | | | | |
| Apprenticeship | 0.473 | – | 0 | 1 |
| Training college | 0.081 | – | 0 | 1 |
| Technical college | 0.217 | – | 0 | 1 |
| University degree | 0.208 | – | 0 | 1 |
| No/other education | 0.020 | – | 0 | 1 |
| Extraversion | 3.611 | 0.728 | 1.333 | 5 |
| Agreeableness | 4.043 | 0.572 | 1.667 | 5 |
| Conscientiousness | 4.354 | 0.459 | 2.333 | 5 |
| Neuroticism | 2.717 | 0.769 | 1 | 5 |
| Openness | 3.606 | 0.622 | 1.250 | 5 |
| Commitment | 22.26 | 5.173 | 0 | 30 |
| Training | 0.410 | – | 0 | 1 |
| Tenure | 17.14 | 10.46 | 0 | 44 |
| Job satisfaction | 7.503 | 1.609 | 0 | 10 |
| Fair treatment by the supervisor | 3.922 | 0.910 | 1 | 5 |
| Perceived support | 3.478 | 1.200 | 1 | 5 |
| Establishment characteristics | | | | |
| Establishment size | | | | |
| Small enterprises (10–49) | 0.011 | – | 0 | 1 |

(Continues)

TABLE 1 (Continued)

| | Mean | SD | Min | Max |
|---|---|---|---|---|
| Medium-sized enterprises (50–249) | 0.599 | – | 0 | 1 |
| Large enterprises (250 and more) | 0.390 | – | 0 | 1 |

*Note*: Descriptive statistics of individual level variables are based on 4351 individual level observations from 1924 employees, descriptive statistics of establishment characteristics are based on 458 establishments.
[a]The observations in each category are as follows: no supervisory responsibility (3207), supervisory responsibility <1 year (17), supervisory responsibility ≥1 year (1127).
*Source*: Own calculations based on data from the Linked Personnel Panel 2012–2019 and the IAB Establishment Panel 2012–2019.

TABLE 2 Correlation matrix of the main variables.

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| (1) Turnover intention | 1.000 | | | |
| (2) Supervisory responsibility | −0.057*** | 1.000 | | |
| (3) Development plans | −0.028 | −0.016 | 1.000 | |
| (4) Appraisal interviews | −0.075*** | 0.065*** | 0.210*** | 1.000 |

*Note*: Descriptive statistics of individual level variables are based on 4351 individual level observations from 1924 employees, descriptive statistics of establishment characteristics are based on 458 establishments.
*Source*: Own calculations based on data from the Linked Personnel Panel 2012–2019 and the IAB Establishment Panel 2012–2019.

values of the independent variables using maximum likelihood. Finally, since multiple individuals are drawn from the same employer, I account for correlations within establishments by clustering standard errors at the establishment level.

# 4 | RESULTS

## 4.1 | Baseline results

To quantify the short-term and long-term effect of supervisory responsibility on turnover intentions, I examine the results of the ordered probit regression which are displayed in Table 3 (Model M1). Column 1 shows the regression coefficients whereas Columns 2 to 4 give deeper insights on the effect sizes by displaying average marginal effects for the different outcome categories of the dependent variable.

Hypothesis 1 states that if an individual obtains supervisory responsibility, it temporarily lowers their turnover intentions compared to an individual without supervisory responsibility. The statistically significant and negative coefficient of *supervisory responsibility* < *1 year* in Column 1 of Table 3 supports the theoretical prediction that in the short run supervisory responsibility lowers an employee's intentions to leave the current employer compared to an employee without supervisory responsibility. To evaluate the magnitude of the effect size, I examine average marginal effects: When an employee obtains supervisory responsibility, their probability of low turnover intentions, that is, never thinking about changing their job increases on average by 15.4% points. Conversely, the probability of high turnover intentions decreases by 4.7% points when obtaining supervisory responsibility.

Looking at the results of the variable *supervisory responsibility* ≥ *1 year* in Column 1 of Table 3, I find a statistically significant and positive coefficient. This supports hypothesis 2, which claims that obtaining supervisory

**TABLE 3** Ordered probit estimation of turnover intention.

| | Coefficients | Average marginal effects | | |
|---|---|---|---|---|
| | M1 | Low turnover intentions | Moderate turnover intentions | High turnover intentions |
| Supervisory responsibility | | | | |
| No supervisory responsibility | Ref. | Ref. | Ref. | Ref. |
| Supervisory responsibility <1 year | −0.989*** | 0.154*** | −0.107*** | −0.047*** |
| | (0.365) | (0.041) | (0.031) | (0.010) |
| Supervisory responsibility ≥1 year | 0.155* | −0.032* | 0.020* | 0.012* |
| | (0.080) | (0.016) | (0.010) | (0.006) |
| Appraisal interviews | −0.007 | 0.001 | −0.001 | −0.000 |
| | (0.079) | (0.016) | (0.010) | (0.006) |
| Development plans | −0.047 | 0.010 | −0.006 | −0.003 |
| | (0.072) | (0.014) | (0.009) | (0.005) |
| Employee characteristics | | | | |
| Female | 0.020 | −0.004 | 0.002 | 0.001 |
| | (0.079) | (0.016) | (0.010) | (0.006) |
| Age | −0.046*** | 0.009*** | −0.006*** | −0.003*** |
| | (0.005) | (0.001) | (0.001) | (0.000) |
| Number of children | −0.044 | 0.009 | −0.006 | −0.003 |
| | (0.042) | (0.008) | (0.005) | (0.003) |
| Education | | | | |
| Apprenticeship | Ref. | Ref. | Ref. | Ref. |
| Training college | −0.075 | 0.015 | −0.010 | −0.005 |
| | (0.145) | (0.029) | (0.018) | (0.011) |
| Technical college | 0.125 | −0.025 | 0.016 | 0.009 |
| | (0.097) | (0.019) | (0.012) | (0.007) |
| University degree | 0.419*** | −0.084*** | 0.053*** | 0.031*** |
| | (0.103) | (0.021) | (0.013) | (0.008) |
| No/other education | −0.053 | 0.011 | −0.007 | −0.004 |
| | (0.238) | (0.048) | (0.030) | (0.017) |
| Extraversion | 0.001 | −0.000 | 0.000 | 0.000 |
| | (0.054) | (0.011) | (0.007) | (0.004) |
| Agreeableness | −0.040 | 0.008 | −0.005 | −0.003 |
| | (0.066) | (0.013) | (0.008) | (0.005) |
| Conscientiousness | −0.108 | 0.022 | −0.014 | −0.008 |
| | (0.085) | (0.017) | (0.011) | (0.006) |

(Continues)

TABLE 3 (Continued)

| | Coefficients | Average marginal effects | | |
|---|---|---|---|---|
| | M1 | Low turnover intentions | Moderate turnover intentions | High turnover intentions |
| Neuroticism | 0.200*** | −0.040*** | 0.025*** | 0.015*** |
| | (0.049) | (0.010) | (0.006) | (0.004) |
| Openness | 0.202*** | −0.040*** | 0.026*** | 0.015*** |
| | (0.064) | (0.013) | (0.008) | (0.005) |
| Commitment | −0.081*** | 0.016*** | −0.010*** | −0.006*** |
| | (0.008) | (0.002) | (0.001) | (0.001) |
| Training | 0.129* | −0.026* | 0.016* | 0.009* |
| | (0.068) | (0.013) | (0.009) | (0.005) |
| Tenure | −0.012*** | 0.002*** | −0.002*** | −0.001*** |
| | (0.004) | (0.001) | (0.001) | (0.000) |
| Job satisfaction | −0.342*** | 0.069*** | −0.044*** | −0.025*** |
| | (0.027) | (0.005) | (0.003) | (0.002) |
| Fair treatment by the supervisor | −0.308*** | 0.062*** | −0.039*** | −0.023*** |
| | (0.040) | (0.008) | (0.005) | (0.003) |
| Perceived support | −0.151*** | 0.030*** | −0.019*** | −0.011*** |
| | 0.129* | −0.026* | 0.016* | 0.009* |
| Establishment characteristics | | | | |
| Establishment size | | | | |
| Small enterprises (10–49) | Ref. | Ref. | Ref. | Ref. |
| Medium-sized enterprises (50–249) | 0.604*** | −0.130*** | 0.078*** | 0.052*** |
| | (0.173) | (0.040) | (0.022) | (0.018) |
| Large enterprises (250 and more) | 0.293*** | −0.060*** | 0.038*** | 0.022*** |
| | (0.097) | (0.020) | (0.013) | (0.008) |
| Cut point 1 | −6.735*** | | | |
| | (0.562) | | | |
| Cut point 2 | −5.141*** | | | |
| | (0.547) | | | |
| Number of observations | 4351 | 4351 | 4351 | 4351 |
| Number of individuals | 1924 | 1924 | 1924 | 1924 |
| Number of establishments | 458 | 458 | 458 | 458 |
| Log pseudo-likelihood | −2594.555 | | | |

*Note*: Dependent variable: Turnover intention; dummy variables for year, state and industry included.
Standard errors clustered at the establishment level in parentheses, $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.
*Source*: Own calculations based on data from the Linked Personnel Panel 2012–2019 and the IAB Establishment Panel 2012–2019.

responsibility has a long-term positive effect on an employee's turnover intentions compared to an individual without supervisory responsibility. The average marginal effects of having supervisory responsibilities for at least a year indicate that the probability for an individual to have low turnover intentions is on average 3.2% points lower compared to employees without supervisory responsibilities (Column 2). Moreover, the probability for an individual to have high turnover intentions is on average 1.2% points higher when comparing employees having supervisory responsibilities for a year or more to non-leaders. I, additionally, tested the short- and long-term effects of supervisory responsibility on turnover intentions to be statistically different from each other. This shows that employees who have had supervisory responsibility for a year or more also have higher turnover intentions than employees who have just shortly been promoted into a leadership position with supervisory responsibility. To sum

**TABLE 4** Ordered probit estimation of turnover intentions for supervisors considering human resource management (HRM) practices moderations.

| | **Coefficients** | |
|---|---|---|
| | **M2** | **M3** |
| Supervisory responsibility | | |
| Supervisory responsibility <1 year | Ref. | Ref. |
| Supervisory responsibility ≥1 year | 1.449* | 0.630 |
| | (0.773) | (0.527) |
| Appraisal interviews | 0.303 | −0.316** |
| | (0.891) | (0.150) |
| Appraisal interviews X supervisory responsibility ≥1 year | −0.620 | |
| | (0.907) | |
| Development plans | −0.218* | −1.172 |
| | (0.126) | (0.823) |
| Development plans X supervisory responsibility ≥1 year | | 0.964 |
| | | (0.831) |
| Cut point 1 | −7.273*** | −8.046*** |
| | (1.429) | (1.288) |
| Cut point 2 | −5.508*** | −6.284*** |
| | (1.384) | (1.240) |
| Employee characteristics | Yes | Yes |
| Establishment characteristics | Yes | Yes |
| Number of observations | 1144 | 1144 |
| Number of individuals | 629 | 629 |
| Number of establishments | 284 | 284 |
| Log pseudo-likelihood | −603.158 | −602.865 |

*Note*: Dependent variable: Turnover intention; employee and establishment characteristics as in Model M1 (Table 3). Standard errors clustered at the establishment level in parentheses, $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.
*Source*: Own calculations based on data from the Linked Personnel Panel 2012–2019 and the IAB Establishment Panel 2012–2019.

**TABLE 5** Average marginal effects of career enhancing human resource management (HRM) practices on turnover intentions for supervisors.

| Average marginal effect of... | Low turnover intentions | Moderate turnover intentions | High turnover intentions |
|---|---|---|---|
| ...Appraisal interviews | | | |
| Supervisory responsibility <1 year | −0.029 (0.081) | 0.023 (0.065) | 0.006 (0.016) |
| Supervisory responsibility ≥1 year | 0.059** (0.029) | −0.041** (0.020) | −0.018** (0.009) |
| ...Development plans | | | |
| Supervisory responsibility <1 year | 0.111 (0.081) | −0.088 (0.062) | −0.024 (0.019) |
| Supervisory responsibility ≥1 year | 0.038* (0.023) | −0.026* (0.016) | −0.011* (0.007) |

*Note*: Dependent variable: Turnover intention; calculations based on Model M2 (Table 4) for appraisal interviews and Model M3 (Table 4) for development plans.

Standard errors clustered at the establishment level in parentheses, *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

*Source*: Own calculations based on data from the Linked Personnel Panel 2012–2019 and the IAB Establishment Panel 2012–2019.

up, the empirical findings support the theoretical predictions that obtaining a leadership position with supervisory responsibility temporarily lowers turnover intentions while increasing them in the long run.

To counteract this long-term turnover-increasing effect, I have argued that HRM practices that enhance internal career development can oppose this effect by lowering the turnover intentions of long-term supervisors (H3). Therefore, in a second step, I restrict the sample to only individuals with supervisory responsibility and I include an interaction term between supervisory responsibility and appraisal interviews (Table 4, Model M2), respectively development plans (Table 4, Model M3), as proxies of HRM practices that enhance internal career development, into the regression. To interpret the results of the interaction terms, I further calculate average marginal effects which are displayed in Table 5. In line with the theoretical expectations, the results show that whether an employee with long-term supervisory responsibility has had a structural appraisal interview during the last year increases the probability of having low turnover intentions by 5.9% points and decreases the probability of high turnover intentions by 1.8% points. In addition, development plans for supervisors increase the probability of low turnover intentions by 3.8% points and decrease the chance of high turnover intentions by 1.1% points. Altogether, this supports hypothesis 3. As expected, for short-term supervisors, the average marginal effects of both HRM practices are not statistically significantly different from zero. This indicates that these particular HRM practices are only effective for long-term supervisors.

In conclusion, HRM practices that enhance internal career development can increase the retention of individuals with long-term supervisory responsibilities by lowering long-term supervisors' turnover intentions.

## 4.2 | Robustness checks

The following supplemental analyses show the validity of the empirical results regarding two different model specifications. For brevity, Table 6 only presents the results relating to the main variables. The results relating to control variables accord with those from the main model and can be obtained from the author on request.

**TABLE 6** Robustness checks.

| | Linear random effects | | | Multilevel ordered probit | | |
|---|---|---|---|---|---|---|
| | R1 | R2 | R3 | R4 | R5 | R6 |
| Supervisory responsibility | | | | | | |
| No supervisory responsibility | Ref. | | | Ref. | | |
| Supervisory responsibility <1 year | −0.304** | Ref. | Ref. | −0.992*** | Ref. | Ref. |
| | (0.123) | | | (0.357) | | |
| Supervisory responsibility ≥1 year | 0.041* | 0.564** | 0.284 | 0.143* | 1.449* | 0.630 |
| | (0.022) | (0.236) | (0.186) | (0.078) | (0.773) | (0.527) |
| Appraisal interviews | 0.007 | 0.281 | −0.085** | −0.018 | 0.303 | −0.316** |
| | (0.020) | (0.270) | (0.037) | (0.078) | (0.891) | (0.151) |
| Appraisal interviews X supervisory responsibility ≥1 year | | −0.372 | | | −0.621 | |
| | | (0.271) | | | (0.907) | |
| Development plans | −0.010 | −0.050 | −0.054 | −0.084 | −0.218* | −1.172 |
| | (0.018) | (0.033) | (0.240) | (0.067) | (0.126) | (0.823) |
| Development plans X supervisory responsibility ≥1 year | | | 0.004 | | | 0.964 |
| | | | (0.241) | | | (0.831) |
| Employee characteristics | Yes | Yes | Yes | Yes | Yes | Yes |
| Establishment characteristics | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of observations | 4351 | 1144 | 1144 | 4351 | 1144 | 1144 |
| Number of individuals | 1924 | 629 | 629 | 1924 | 629 | 629 |
| Number of establishments | 458 | 284 | 284 | 458 | 284 | 284 |
| $R^2$ (linear model)/log pseudo-likelihood (multilevel model) | 0.362 | 0.386 | 0.386 | −2583.089 | −603.156 | −602.862 |

*Note*: Dependent variable: Turnover intention; employee and establishment characteristics as in Model M1 (Table 3). Standard errors clustered at the establishment level in parentheses, $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.
*Source*: Own calculations based on data from the Linked Personnel Panel 2012–2019 and the IAB Establishment Panel 2012–2019.

First, since an approximate likelihood ratio test implies that the parallel regression assumption of the ordered probit model is rejected, I reestimate the analyses using a linear random effects probability model which does not rely on this assumption (Table 6, Models R1, R2, R3). Briefly, the results are robust concerning the significance and the sign of the main variables. Second, in the data set of this study employees are nested within establishments and the estimations are therefore based on hierarchically structured data. Following Steenbergen and Jones (2002, pp. 219–220), a multilevel model is more appropriate in this case since it calculates inferences more precisely by explicitly acknowledging that observations are more similar within establishments than between them and, therefore, taking into account information from all levels when explaining the variance of the dependent variable (Steenbergen & Jones, 2002, p. 219). The results of the random-intercept multilevel ordered probit models (Models R4, R5, R6), which are displayed in Table 6, confirm the effects of the main analyses and, therefore, strengthen the results of this study. In conclusion, the results appear to be robust concerning the specifications of the model.

## 5 | DISCUSSION AND CONCLUSION

The results of the present research extend the findings of the social exchange literature on the relation between employee development and turnover intentions (Dysvik & Kuvaas, 2008; Ertas, 2019; C. H. Lee & Bruvold, 2003) and the literature which addresses this relationship from a human capital perspective (Benson, 2006; Benson et al., 2004; Dietz & Zwick, 2021; Green et al., 2000; Pattie et al., 2006; Sieben, 2007). It provides suggestive support for the application of social exchange and human capital theory by examining the impact of supervisory responsibility on an employee's turnover intentions, distinguishing between short-term and long-term effects. This approach offers a perspective to possibly deconstruct the theoretical constructs of social exchange and human capital theory into short- and long-term effects.

Using German linked employer-employee data, the current research provides insights into the prediction of social exchange theory that obtaining supervisory responsibility increases an employee's intention to stay with the current employer for a short period. Additionally, the results support the theoretical prediction of human capital theory that in the long run supervisory responsibility increases the intentions to leave the current employer as a consequence of the general skills acquired in the leadership position. Since turnover intentions decrease not only from having short-term compared to long-term supervisory responsibility (which could be explained due to the diminishing reciprocal feelings) but also by comparing individuals having supervisory responsibility on a long-term basis to employees without supervisory responsibility, explicitly tests the human capital mechanism.

The findings of this study also illustrate that HRM practices that enhance internal career development, like appraisal interviews or development plans, oppose this effect for long-term supervisors and reduce their intentions to leave the current employer since they then see more options for internal career progression and, therefore, internal utilization of their newly acquired general human capital. Conversely, these HRM practices do not affect the turnover intentions of short-term supervisors and should, therefore, be targeted at long-term supervisors only. Additionally, it reinforces the importance of career-supporting HRM practices whose relevance has already been stressed by previous literature (Ertas, 2019; Kraimer et al., 2011; Shuck et al., 2014) and extends it by specifically showing how these HRM practices reduce turnover intentions of long-term supervisors. Thus, it contributes to the literature by investigating how appraisal interviews and development plans can lower these increased turnover intentions of employees who have, through having long-term supervisory responsibility, acquired marketable skills.

The present findings are economically relevant and have several practical implications. For employers, handing over supervisory responsibility to an employee can be used as a short-term retention device. This might be particularly useful for employers that try to retain qualified personnel. Nevertheless, it needs to be noted that on a long-term basis solely promoting an employee into a leadership position with supervisory responsibility even increases their turnover intentions. Therefore, employers need to explicitly counteract this turnover-increasing effect when wanting to retain these managerial skills for a long period. As the results suggest, employers should combine transferring supervisory responsibility and, thus, giving employees broadly marketable skills with career development opportunities to retain qualified personnel. Since employers cannot develop every employee who gains new general skills, they should explicitly aim to retain high-performers (Benson, 2006, p. 186). For employees, the skills acquired through a leadership position with supervisory responsibility are of high market value and, therefore, desirable. If an employee is not offered additional internal career opportunities, they might use the acquired skills to pursue better outside options. Briefly, since obtaining supervisory responsibility is a development opportunity per se, additional development opportunities have to follow or employees will leave.

Although this research makes several contributions to the literature, it is nevertheless limited. First, the utilization of appraisal interviews and development plans as proxies for HRM practices that enhance internal career development might have some shortcomings. It is not clear how well they represent the chances of internal career development but they were the best options due to data availability. Future research could attempt to determine additional career-supporting HRM practices that counteract the long-term turnover-increasing effect of supervisory responsibility for example, talent management programs. Another potential concern of this study is that even though the analyses include copious control variables in conformance with the literature on the individual and the establishment level to rule out an omitted variable bias as well as a selection problem, the coefficients should be interpreted with caution to causality since endogeneity cannot be fully precluded from the analyses. Second, I acknowledge that the present study focuses on turnover intentions instead of actual turnover due to data restrictions. Even though, the two constructs are said to be highly correlated, further research could compare the findings of this study to actual turnover behavior over a longer period. Furthermore, the limited number of observations with less than one year of supervisory responsibility (17 observations) may appear to present a challenge in the statistical analyses. This rare occurrence in the independent variable results in heightened uncertainty in estimating the point estimate of short-term supervisory responsibility. Nevertheless, given the substantial effect observed in this study, this degree of statistical uncertainty does not appear to be a significant concern. However, future studies could consider incorporating data that deliberately oversamples individuals having supervisory responsibility for a very short period. Additionally, the underlying social exchange mechanism of the short-term effect remains speculative at this time. I encourage future research to quantify this mechanism, especially considering the differences in the magnitude of reciprocal behavior between employees that were neglected in this study. Future work should attempt to determine differences in the amount of reciprocal feelings between employees to further investigate which employees can be retained by leadership positions with supervisory responsibility and for how long. Depending on the degree of reciprocal behavior of employees, HRM practices that focus on retaining long-term supervisors could differ in their effectiveness across firms and employees. This is especially relevant in times of skills and managerial shortages when employers need to counteract turnover intentions of qualified personnel to retain their high-performing supervisors.

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## CONFLICT OF INTEREST STATEMENT

The author has no relevant financial or non-financial interests to disclose.

## DATA AVAILABILITY STATEMENT

The data access was provided via on-site use at the Research Data Center (FDZ) of the German Federal Employment Agency (BA) at the IAB and subsequently remote data access.

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## ENDNOTES

[1] “never”: 2,943, “a few times a year”: 950, “a few times a month”: 310, “a few times a week”: 118, “daily”: 30

[2] A test of summarizing the categories of the dependent variable even more was rejected. Cronbach's alpha is 0.7, indicating that the scale of the dependent variable is reliable.

[3] While I acknowledge that previous studies do not ensure a 1-year period for acquiring leadership skills, some studies (Abrell et al., 2011; Hirst et al., 2004; Karagianni & Jude Montgomery, 2018; Lord and Hall (2005) hint to or base their arguments on the idea that approximately after 1 year, a supervisor has typically completed a leadership development program and/or aquired general management skills needed within that position.

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